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WHAT THE UNIVERSITY EXPECTS OF THE SECONDARY SCHOOL¹

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The high school exists primarily for its own sake; and secondarily as a preparatory school for college. This means that when the high-school interest and the college interest come into conflict, the college interest must yield. It also means that the function of a preparatory school must be performed only in so far as it does not interfere with the more fundamental purpose of the high school itself. It also means that independent dictation by colleges, either directly or indirectly, must be changed to adaptation to what the high schools can do and ought to do, as determined by the high schools themselves. The high school must be regarded as an autonomous, *not* a subordinate, institution.

Therefore, my real mission today is not so much to tell high schools what the university expects, as to ask from them what the university *ought* to expect. Any suggestion that I may make must be regarded as raising the question whether in your judgment it is reasonable. Two co-ordinate bodies are represented here, and they have met, not for mutual dictation, but for mutual agreement.

Since leaving a state institution fifteen years ago, I have had little occasion to visit high schools; but in the last few months

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I have had opportunity to renew my first-hand acquaintance with some of them. I recognized that during this interval we have been making tremendous progress in educational ideals and technique, and that in this general progress the high schools must have shared. I was not disappointed in this belief, for I discovered that in material equipment, in greater freedom and variety of work, in the closer articulation of work to the necessities and obligations of life, there has been very great progress. No student of education can fail to see in all this a genuine and most gratifying progress.

To formulate what the college expects from the high school, under these conditions of healthy growth, is as difficult as to formulate what one expects of a vigorous boy who is making a splendid record of physical, and intellectual, and spiritual progress. The expectation is simply that the same gratifying progress will continue.

Nevertheless, I shall speak to three topics, and the first is:

I. THE HISTORICAL SETTING

Why have we come together, and why do our interests ever conflict? Questions of entrance requirements, of examination or certificate, represent the historical tension line; to this may be added the advice freely given by university instructors to high-school instructors as to *what* they shall teach and *how* they shall teach it. The entrance requirements have constituted what universities call their "standards," concerning which I shall have something to say later. As a rule, the state universities have set these standards for the high schools; and, as a rule, the other universities, in self-defense, have followed them.

Universities, as a rule, are great store-houses of educational precedents, which have descended from mediaeval times, when there were very few subjects organized for study, and these few held little or no relation to the problems of intelligent living. They were the possession and pastime of a favored few. Heredity has filled the blood of most universities with this so-called scholastic spirit, so that they find it hard to adapt themselves to the new conditions. It should be remembered that the old selec-

tion of subjects was a matter of necessity rather than of choice; but since the opportunity for ample choice has come, the old necessity no longer exists, although it is the tendency of most universities to regard the older subjects and the older methods as possessing a peculiar relation to education.

On the other hand, the American school system is peculiarly a modern institution, developed out of the necessities of our own civilization, and seeking to meet the demands of the time. The schools are handicapped by no precedents, and have no heirloom rubbish to interpolate among their modern furniture. To the thoughtful student of education it is intensely interesting to watch the progress of the effort to articulate the very old, as represented by the universities, with the very new, as represented by the schools. It was necessary that it should lead to clashing opinions, and that the old and the new should scoff at one another. The old had the advantage of that dignity and influence which belongs to years and an honorable history; the new had the advantage of numbers and of public opinion. Neither could dictate to the other, although both wanted to. It is really quite remarkable that the two have gotten along so well together, and this argues well for the deep-rooted belief of each that it must have the other. In the main, however, the universities have imposed more upon the schools than they have conceded, as is very apt to be the case when the weight of educational authority is largely upon one side.

It is hard for the universities to lay aside the thought that the high schools are primarily preparatory schools. If this be conceded, then the universities must be permitted to dictate the courses of study. But it is not conceded, and still the universities have in effect dictated the courses. They have done it by making the entrance requirements so specific and so numerous that the four years of high school are absolutely filled with them. If there is anything for a high school to do beside preparing students for college, it either has no time for it or it is compelled to organize a separate and independent curriculum which does not lead to college. Most schools are so situated that they cannot do both. The colleges are honest in their opinion that their

entrance requirements represent the very best education for a student of that grade, whether he is to enter college or not. I have helped express and enforce this opinion, and so cannot be accused of any prejudice if I now venture to dissent from it. I still think that a large part of the university entrance requirement represents the very wisest subjects that can enter into the curriculum of the high school; but when these requirements become so large and so specific that they destroy the educational autonomy of the high school, and convert it into a university appendage, then I am constrained to dissent.

The increasing standards are to permit more advanced work in the university, and this is a magnificent purpose, to be encouraged by every true lover of education; but it must not be done at the expense of the schools, the great mass of whose students never enter the university. It is wise to introduce into the high school studies which may be of no special benefit to the pupil preparing for college, for they are of great benefit to the lives of those whose educational career must end with the high school. As I understand it, the high school is intended to train for better citizenship, to enlarge the opportunity for obtaining a better livelihood, to open broader views of life and its duties. In order to be of the greatest benefit to the greatest number, its course of study must be constructed as though there were to be no further formal education for the pupil. Subjects must be related to the needs of life and of society, but this need not and should not exclude those subjects or those methods which prepare and stimulate for further study; for there should be constant recognition of the fact that the secondary school is but an intermediate stage in educational progress.

II. THE UNIVERSITY EXPECTS GOOD TEACHING IN THE SECONDARY SCHOOL

There seems to be still a great deal of ineffective teaching in the secondary schools. That there may be no misunderstanding, I hasten to say that there is more poor teaching in universities than in secondary schools; and the larger the university, the larger does the percentage of poor teaching become. This would

be disastrous in higher education, were it not compensated for by the secondary schools, which turn over to the universities material that can stand the shock of a certain amount of poor teaching. There is an excuse for this in the universities which does not obtain in the high schools, and it is so evident that I do not need to specify it. There is all the more reason, therefore, that the high schools should bring the technique of teaching to its greatest efficiency.

I do not refer to the subject-matter or to the equipment of the school in material things, but simply to the contact of teacher and pupil in the act of teaching. We construct a well-ordered machine that runs smoothly, and then at the point of application often get no power, and the trouble is so subtle that correction seems almost impossible. To catch by observation the qualities of an effective teacher is like trying to catch a personality. For such a one no rules can be formulated. He is like the real artist, born with a feeling for his work. And yet there are certain obvious things that can be observed, and these ought to be helpful.

Perhaps the most difficult work of the teacher is to appreciate the exact mental condition of the pupil in reference to any subject. Unless there is complete adaptation in this regard, the contact is a failure, leading to mutual disgust and distrust.

In much of the teaching I have observed in the schools, the impression left upon me has been one of astonishing lack of simplicity and directness in the presentation of subjects, resulting in utter confusion. My own conclusion has been that this indicates either ignorance of the subject, or lack of teaching ability, or a wooden application of some pedagogical refinement which has been learned somewhere, and which is either not worth applying in any case, or is woefully misplaced. Hardly can there be imagined a worse combination than wooden teaching by one ignorant of the subject. In a great mass of teaching, instead of using clear expression and a direct presentation, the effort seems to be to use most unusual phrases, as far from an ordinary vocabulary as possible, and to approach the subject in such a devious way that its significance is in danger of being missed. The philosophy of teaching is well enough as a background, but

philosophical teaching is usually out of place. To inject the abstractions and phrase-making of normal training into the schoolroom is to dismiss clearness and all intellectual contact with pupils. This is no criticism of pedagogical training, for I would be the last to suggest that any profession should be attempted without professional training; but it is a criticism of those teachers who do not know how to apply their training, and follow what they regard to be rules, rather than principles.

Probably the greatest factor in this result is the fact that far too many teachers have learned more of the form of teaching than of the subject-matter to be taught. There is no flexibility, no power of adaptation, no ability to depart from a fixed routine, and hence no adjustment to the very diverse mental conditions they must meet and are expected to stimulate. Necessary flexibility in methods is impossible without a broad grasp of the subject to be presented. The amount of meaningless drudgery that this senseless formalism has forced upon pupils has long been recognized by parents, whose indignation occasionally breaks out in condemnation of the schools as places where method has run to seed.

It is very fortunate that the human mind is so tough a structure that it will develop in spite of teachers, and all of our educational experiments have not succeeded in sensibly stunting it. I have about concluded that the great problem in the act of teaching is not how to impart instruction, but how to oppose the fewest obstacles to mental development. The human mind has a mighty way of overcoming obstacles, but, as teachers, we have no right to attempt to make them insurmountable. I have almost cried out in indignation when witnessing some pupil whose quick mind has discovered short cuts to results, ruthlessly forced upon the procrustean bed of method by some teacher who knows only one way. It is such things that bring the profession into deserved contempt, as one that has not yet emerged from blind empiricism.

I know that this is imposing a tremendous burden of preparation upon teachers, but how is it to be avoided? In no part of educational work is flexibility in presentation and in material so

necessary as at its beginning. Truth is many-sided, and it is always a question as to which side shall be presented. The teacher who knows only one side is hopelessly lost, and hence becomes dogmatic and useless.

The whole situation results in a kind of paradox. If teachers develop such a grasp of the subject as to handle it with the greatest flexibility, will ordinary school positions content them? The question can be answered in only one way, and therefore we must come to this way sooner or later. The schools must be recognized as the greatest opportunity for *teaching*, as the universities are recognized as the greatest opportunity for *re-search*; and positions in the two must become equal in public esteem, in scholarly esteem, and in income.

The high schools have developed to the point where not only university training but often graduate training is demanded of the teachers. This is inevitable and desirable, for it will secure that grasp of the subject and facility in using it that has just been spoken of. It is to become increasingly true that the great field of our university masters and doctors is the high school; for they are becoming too numerous to provide for in any other way. Comparatively few of them can find places in universities and colleges; and most of those who do would be better off in good high schools. The lot of an assistant in a university or even of a professor in a small college is not so happy as it may look from the outside. In the former position, promotion is apt to be exasperatingly slow; while in the latter position it is impossible.

All this means that there is to be an increasingly large injection of university-trained men and women into the high schools, and on account of this we are confronted by a distinct educational danger. I have noticed a distinct tendency on the part of teachers so trained to transfer the methods of the university into the high schools, which goes so far, in some cases, as to duplicate the elementary courses of universities. In my judgment nothing could be more out of place in a high school, where the university atmosphere is a distinct disadvantage. There must be developed a clear understanding that the university training is to give to the high-school teacher a grasp of the subject, but not at all a

method of presentation. Such factors as the maturity of the pupil, the time at command, the size of classes, the purpose, all differ in the two cases, and presentation becomes a totally different problem.

I grant that it is easier to *repeat* a course than to *construct* one; but the teacher's problem is a constructive one, for it involves the power to *initiate* rather than the ability to *imitate*. It seems to be a hard lesson for university graduates to learn that a high school is not a college, and that it demands its own peculiar kind of teaching.

Naturally my attention has been directed especially to the instruction in science, and I have been amazed to see the large number of miniature college laboratories organized in high schools. The laboratories are well enough, but the courses given in them are too often college courses.

I recognize that probably no subject has been more discussed than science in secondary schools. School teachers and university teachers, in committees and conventions and addresses and periodicals, have wrestled with this problem. The school teachers knew their pupils and their facilities, but not too much about the subjects. The university teachers knew the subjects, but very little about the pupils, and still less about the facilities. It was hard for both to occupy the same standpoint, and both were inclined to be somewhat dogmatic, the university teacher perhaps a little the more so. School patrons, with their demands, have been a factor also.

The sciences are all in a state of extremely rapid evolution, and the schools are often finding themselves strangely at variance with the universities, and are plainly and repeatedly told that their science is an absurdity. These unpleasant statements are usually received with becoming meekness, as coming from those who are supposed to know, but they have led to nothing or to chaos.

This situation has been intensified by the numerous textbooks and laboratory guides, bearing the favorite legend "for high schools and colleges," and written by college men, from the college standpoint, which calculates upon time and equipment

and a reasonable amount of intellectual maturity. I must not be misunderstood, for I believe that these books are immensely useful, as keeping current the material and the point of view. My criticism is directed against the too slavish use of them. They are designed, or they ought to be designed, to simplify the problem of material for the teacher, but beyond that lies the teacher's own problem of presentation, which no one else can assume to solve.

In my judgment, therefore, there should be included in the preparation of the university graduate, who proposes to teach in the high schools, a study of the conditions and purposes of these schools, especially with reference to the difference in the factors entering into the educational ideals of high schools and of universities. Unless this is done, the majority of university graduates will attempt to repeat their university courses in the high schools. The minority are the born teachers, who adapt instruction to pupil and material instinctively, but they will always be in the minority.

The problem is in the hands of the secondary school teachers, for it cannot be solved by any schemes imposed upon them from the outside. They may look elsewhere for material and for suggestions; but the important features of the problem do not enter into the experience of the university instructor.

III. THE UNIVERSITY EXPECTS WELL-PREPARED STUDENTS

I have referred to the recent tendency among universities to increase their demands upon the schools; and this tendency, in my judgment, is full of danger for the schools.

It has long been my theory that the specific demands may be very few, and these so self-evident that a school would not be likely to omit them. What the universities need is not a specific kind of preparation, but a certain degree of intellectual development, a development which is usually much broader than that obtained from the average college preparation. I may be allowed to say, as the result of many years of experience, that this average college preparation presents to the universities the most narrow and unevenly trained material that can be imagined. Nowhere

are the evils of specialization so apparent as in the entrance preparation demanded by many colleges. If this specialization results in comparatively poor college material, its results may be regarded as simply disastrous to the high school in its primary purpose. This is not a plea for the multiplication of studies in the high schools, for one of their great weaknesses today is their tremendously congested condition. It is a plea for the relief of this congestion by reducing the university demands, not in quantity, but in specific assignment, leaving the schools freer to exercise their own judgment in the selection of special subjects.

The time has long passed when any aristocracy of subjects has any right to claim the privilege of standing guard over every avenue leading to a higher education. Any student who has successfully pursued a well-organized and coherent course for four years in a high school should be able to continue his work in the universities. There are differences of opinion as to what constitutes a well-organized and coherent course, but it could be outlined by principles rather than in detail, and the schools themselves should be responsible for its construction. A minimum of subjects and a maximum of time, continuous rather than scattered work, a range broad enough to touch upon all of the fundamental regions of work, methods that will secure precision in thought and expression, contact with the life and work of the times in which we are destined to live, are certainly principles that are sufficient, but concerning whose details none should dogmatize, for they may well vary with the teachers and with the local conditions.

The university should always be called upon for advice as to courses and methods, but it should be from the standpoint best determined by the schools themselves. For instance, I would not presume to dictate to any school the way in which botany must be taught; but I would count it a privilege, upon being made acquainted with the preparation of the teacher, and the facilities at command, to suggest certain lines of work from which, as a rational being knowing the conditions better than any one else, he could make his choice. I would regard it as my chief function to guard inexperience against waste of time and energy, rather

than to direct specifically. If the teacher does not know enough to make a choice in such matters, I would advise the selection of some other means of making a living. I must confess to being a great stickler for individual independence and responsibility, and that school or that teacher which is held in the dictatorial grasp of some higher authority that permits no expression of individualism in methods, which sternly represses all spontaneity and originality, which demands an automaton-like service, is pedagogically blighted. The vast machinery of the schools, which enters into every petty detail, rides them like the old man of the sea, and is converting schools into factories, and teachers into drudges.

And how shall well-prepared material be recognized at the university? Lately the entrance examination system has now and then thrust itself upon my attention afresh. I do not know whether this ghost of a dead past stalks into your educational banquets or not, but it is rampant in certain universities that rather pride themselves upon being haunted. A better scheme to show how not to do it was never devised. At the present day it is peculiar to the Chinese theory of education, and that nation should be allowed its exclusive use. It is both barbarous and unscientific. I would make no serious objection to its barbarity, if it were scientific, that is, if it obtained the information it seeks. What teacher does not recognize that the estimate of the ordinary examination must be tempered by knowledge of the daily work, or grave injustice may be done? How much greater the need of this tempering in the extraordinary entrance examination! If the tempering is necessary to obtain the facts, why not substitute the tempering entirely for the examination? Which means, of course, the substitution of the daily knowledge of the teacher for the ignorance of the university examiner. I wish no better evidence concerning the intellectual equipment of a candidate for entrance into a university than the judgment of the teachers with whom he has worked, for I can get no better, nor any other half so good.

It is strange that the universities are more concerned about their raw material than about their finished product. If they

would be a little less sensitive concerning entrance requirements, and a little more particular concerning graduation requirements, it might be a better expenditure of energy. It has always seemed to me that the fine-meshed sieve is set at the wrong end of the university.

I seem to have spoken for both the high school and the university. I feel that in spirit I belong to both. It may be that I am tempted to scold the university a little the more, because I know it better. It is the older brother, and it always irritates me to see it trying to impose upon the younger one. But *together* we are to establish an American system of education, not copied from ancient times or from other countries; but drawing from them all that is appropriate, and adding our own ideals, we are to meet conditions for which we find no precedent.